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ABSTRACT

School districts sometimes need to add relatively small increments of high quality educational space to their existing physical facilities. For some of these situations, the portable or relocatable classroom is the answer; in other cases, the district needs different or more permanent space--quickly. This document comprises six charts that present detailed information about 35 producers, or in some cases, building systems (representing multiple producers). The list, produced in response to requests for "leads" in this area of fast, incremental space, is designed to show the range of possibilities rather than to be comprehensive. Each industry or building system appears on the charts categorized according to (1) general industry characteristics, (2) product description -- structural, (3) sub-system characteristics, (4) production-delivery-erection characteristics, (5) educational facilities and costs data, and (6) interest and conditions characteristics. (Author)

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producers of fast incremental space

Center for Architectural Research, Rensselaer Polytechnic Institute, Troy, New York

January, 1972

SOME PRODUCERS WHO MAY PROVIDE FAST, INCREMENTAL SPACE FOR SCHOOLS

More and more, school districts find themselves in the positions of wanting to add relatively small increments of high-quality educational space to their existing collections of physical facilities, and they want to do it in a hurry. For some of these situations, the portable or relocatable classroom is the answer; in other cases, though, the district needs different or more permanent space -- it just needs it quickly.

Recognizing this need, Educational Facilities Laboratories, Inc., in Spring 1971, asked the Center for Architectural Research at Rensselaer Polytechnic Institute to survey some of the producers who could provide this space -- or who could do it given the proper conditions.

The attached charts present some rather detailed information about 35 producers, or in some cases, building systems (representing multiple producers). It has been extracted from interviews, a questionnaire, and brochure materials supplied by the producers. There are, of course, many industries and systems; this list is designed to show the range of possibilities rather than to be comprehensive. It is produced in response to requests for 'leads' in this area of fast, incremental space.

Six charts are presented here, and each industry or building system appears on each chart:

- A General Industry Characteristics
- B Product Description - Structural
- C Sub-system Characteristics
- D Production-Delivery-Erection Characteristics
- E Educational Facilities and Costs Data
- F Interest and Conditions Characteristics

It is the nature of industries and systems to change. The information presented here is already out-of-date. It has not been rigorously checked and approved by the producers themselves and may be incomplete as well. It is hoped, however, that this listing will provide some active 'leads' for districts seeking this kind of space.

For more information, contact the producers directly or contact Walter M. Kröner, Center for Architectural Research, Rensselaer Polytechnic Institute, Troy, New York 12181 (or 518-270-6461).

ARMCO Steel Corp.
Metal Products Division
Dept. M 310
P. O. Box 800
Middletown, Ohio 45042
(513) 425-2943

Birdair Structures, Inc.
Air Shelters Division
1800 Broadway
Buffalo, New York 14212
(716) 896-5100

Butlet Mfg. Co.
Dept. C 7309 E. 13th Street
Kansas City, Missouri 64126
(816) 231-7400

Carlson Corp.
321 Commonwealth Road
Cochituate, Massachusetts 01778
(617) 969-1200

Component Bldg. Systems, Ltd.
35 East Wacker Drive
Chicago, Illinois 60601
(312) 641-3680

Componoform, Inc.
15 Brattle Street
Cambridge, Massachusetts 02140
(617) 868-9500

Descon-Concordia Systems Ltd.
P. O. Box 239
Place Bonaventure
Montreal 114, Quebec
(514) 346-3477

Duane Rentals, Inc.
950 State Street
Schenectady, New York 12307
(518) 346-3477

General Electric Co.
Advanced Products Division
3198 Chestnut Street
Philadelphia, Pennsylvania 19101
(215) 823-3371

Housing Systems Inc.
2132 Five Mile Line Road
Penfield, New York 14526
(716) 381-9700

Insta Buildings, Inc.
877 South Adams Road
Birmingham, Michigan 48011
(313) 642-8262

Jal-Donn Modular Bldgs., Inc.
P. O. Box 45100
Westlake, Ohio 44145
(216) 871-2090

Kaiser Designed Facilities Corp.
970 Pittsburgh Drive
Industrial Park
Deleware, Ohio 43015
(614) 369-4481

Levitt Building Sys
P. O. Box 155
10250 "F" Drive N
Battle Creek, Mich
(616) 968-9111

Lockheed Aircraft
Div. of Lockheed A
Housing Systems Di
P. O. Box 33
Ontario Internation
Ontario, California
(714) 984-1234

Macomber, Inc.
Box 8830
Canton, Ohio 447
(216) 875-1481

Marshall Erdman &
5117 University Ave
Madison, Wisconsin
(608) 238-0211

Minnesepa Ltd.
P. O. Box 36
Penn Yan, New Yo
(315) 536-3316

Modufab Inc.
915 Middle River D
Professional Bldg.
Fort Lauderdale, Fl
(305) 563-1103

Duane Rentals, Inc.
950 State Street
Schenectady, New York 12307
(518) 346-3477

General Electric Co.
Advanced Products Division
3198 Chestnut Street
Philadelphia, Pennsylvania 19101
(215) 823-3371

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Penfield, New York 14526
(716) 381-9700

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Birmingham, Michigan 48011
(313) 642-8262

Jal-Donn Modular Bldgs., Inc.
P. O. Box 45100
Westlake, Ohio 44145
(216) 871-2090

Kaiser Designed Facilities Corp.
970 Pittsburgh Drive
Industrial Park
Deleware, Ohio 43015
(614) 369-4481

Levitt Building Systems, Inc.
P. O. Box 155
10250 "F" Drive North
Battle Creek, Michigan 49016
(616) 968-9111

Lockheed Aircraft Service, Inc.
Div. of Lockheed Aircraft Corp.
Housing Systems Division
P. O. Box 33
Ontario International Airport
Ontario, California 91764
(714) 984-1234

Macomber, Inc.
Box 8830
Canton, Ohio 44711
(216) 875-1481

Marshall Erdman & Associates, Inc.
5117 University Avenue
Madison, Wisconsin 53705
(608) 238-0211

Minnesepa Ltd.
P. O. Box 36
Penn Yan, New York 14527
(315) 536-3316

Modufab Inc.
915 Middle River Drive
Professional Bldg.
Fort Lauderdale, Florida 33304
(305) 563-1103

5042

4212

Street
64126

etts 01778

ms, Ltd.

01

etts 02140

emis Ltd.

Modular Structures, Inc.
Skyway Industrial Park
Pipestone, Minnesota 56164
(507) 825-5146

Module Communities, Inc.
1561 Central Avenue
Yonkers, New York 10710
(914) 961-5800

Monolithic Masonry Bldgs., Inc.
P. O. Box 131
Route 11A
Nedrow, New York 13120

Panelfab International Corp.
1600 N. W. LeJeune Road
Miami, Florida 33126
(305) 633-3266

Parkersburg Bldg. Systems
Division of Textron, Walker/Parkersburg
P. O. Box 1828
Parkersburg, West Virginia 26101

Portable Schools, Inc.
Webster, New York
14580
(716) 872-3224

RAS
Irnes, Inc.
700 Quest Boulevard Cremazie West
Montreal 303, Quebec, Canada
(514) 270-3161

Sectional Structures Inc.
23 Mercer Street
Oswego, New York 13126
(315) 343-5400

SEF c/o The Metropolitan Toronto
School Board
155 College Street
Toronto 7, Canada
(416) 863-9620

Shelley Systems, Inc.
400 Park Avenue
New York, New York 10022
(212) 486-9424

Star Manufacturing Co.
Box 94910
Oklahoma City, Oklahoma 73109
(405) 632-7711

Stirling Homes
1150 East River
Avon, New York
(716) 926-2481

Stran Steel Co.
Building Systems
National Steel
2999 S. Wayside
(713) 644-3444

Townland Manufacturing
1001 North Kingsway
Cherry Hill, New Jersey 08002
(609) 667-8111

Urban Systems
Building Systems
3401 Tidewater
Fredericksburg, Virginia 22101
(703) 371-3444

USCO
P. O. Box 683
Richmond, Virginia 23261
(703) 288-3111

56164
RAS
Irnes, Inc.
700 Quest Boulevard Cremazie West
Montreal 303, Quebec, Canada
(514) 270-3161

10710
Inc.
Sectional Structures Inc.
23 Mercer Street
Oswego, New York 13126
(315) 343-5400

13120
dgs., Inc.
Corp.
Road
26
ems
Walker/Parkersburg
inia 26101
SEF c/o The Metropolitan Toronto
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Toronto 7, Canada
(416) 863-9620

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Box 94910
Oklahoma City, Oklahoma 73109
(405) 632-7711

Stirling Homex Corporation
1150 East River Road
Avon, New York 14414
(716) 926-2481

Stran Steel Corporation
Building Systems Subsidiary of
National Steel Corporation
2999 S. Wayside, P. O. Box 14205
(713) 644-3441

Townland Marketing and Development
1001 North Kings Highway
Cherry Hill, New Jersey 08034
(609) 667-8110

Urban Systems Development Corp.
Building Systems Division
3401 Tidewater Trail
Fredricksburg, Virginia 22401
(703) 371-3440

USCO
P. O. Box 6832
Richmond, Virginia 23230
(703) 288-3115

CHART A: CURRENT INDUSTRY CHARACTERISTICS

	location	ownership		primary activity			services			market areas	management system	aquisition methods	bidding options	
		public owned	privately owned	franchised	educational facilities	housing	multi-use	pre-engineered	other	arch./eng.	production	erection	management	
ARMCO STEEL CORP.	oh	x		x	x		x	x	x	x	x	x	x	x
BIRDAIR STRUCTURES	ny	x			b				b	x	x	x	x	x
BUTLER MFG. CO.	mo	x		x	x		x	x	x	c	x	x	x	x
CARLSON CORP.	ma	x	x		x		x		x	x	x	x	x	x
COMPONENT BLDG. SYSTEMS LTD.	il		x		x	x	x	d	x			x	x	x
COMPONOFORM INC.	ma				x	x	x	d	x	x	x	n.e. us	x	x
DESCON/CONCORDIA	can		x		x				x	x		x	n.e. us and canada	x
DUANE RENTALS INC.	ny	x				x			x	x	x	x	x	x
GENERAL ELECTRIC	pa	x				x			x	x		x	x	x
HOUSING SYSTEMS INC.	ny	x				x			x	x	x	x	x	x
INSTA BUILDINGS INC.	mi	x	x		x		x		x	x	x	x	x	x
JAL-DONN MODULAR BUILDINGS INC.	oh		x		x				x	x		x	x	x
KAISER DESIGNED FACILITIES CORP.	oh	x			x	x			x	x		x	x	x
LEVITT BUILDING SYSTEMS INC.	mi				x				x	x	x	x	x	x
LOCKHEED AIRCRAFT SERVICE CO.	ca	x			x				x	x	x	x	x	x
MACOMBER INC.	oh	x			x		x	x	g		x	x	x	x
MARSHALL ERDMAN AND ASSOCIATES INC.	wi	x		x	x		x	h	x	x	x	x	x	x

a. varies with franchised dealer

b. athletic facilities, loft type spaces, etc.

c. no working drawings

d. offices retail facilities, etc.

e. 10 mile radius from plants in ma. and ri.

f. currently latin america only, planning

g. different building system for the u.s.

g. commercial, industrial

CENTER FOR ARCH
rensselear polytechni

INDUSTRY CHARACTERISTICS

	primary activity				services				market areas	management system	acquisition methods		bidding options					
franchised	educational facilities	housing	multi-use	pre-engineered	other	arch./eng.	production	erection	management		open	closed	consortium	outright purchase	lease purchase	performance bidding	traditional bidding	turnkey
x x		x	x	x	x	x	x	x	us and foreign	x			x	a	a	x		
b			b	x	x	x	x	x	us and foreign		x		x			x		
x x		x x	x	c	x	x	x	x	us and canada	x			x			x		
x			x	x	x	x	x	x	mo, ri, ct	x			x		x	x		
x x x		x	d	x				x	us and foreign				x			x		
x x x		d	x	x	x	x			n.e. us	x			x		x	x		
x			x	x	x	x	x	x	n.e. us and canada	x			x	x	x	x	x	
x			x	x	x	x	x	x	n.e. us		x		x	x	x	x	x	
x			x	x	x	x	x	x	n.e. and s.w. us	x			x		x	x	x	
x			x	x	x	x	x	x	us and foreign	x			x		x	x	x	
x x			x	x	x	x	x	x	michigan		x	x		x	x	x		
x			x	x	x	x	x	x	ohio		x	x			x	x		
x x			x	x	x	x	x	x	west and midwest		x	x		x	x	x	x	
x			x	x	x	x	x	x	midwest		x	x			x	x	x	
x			x	x	x	x	x	x	f		x	x			x	x		
x x x g		x	x	x	x	x	x	x	us	x			x		x	x		
x x x h		x	x	x	x	x	x	x	east and midwest		x	x		x	x	x	x	

f. currently latin america only, planning a different building system for the u.s.
g. commercial, industrial

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CHART A: CONTINUED

	location	ownership		primary activity				services			market areas	management system		acquisition methods			
		public owned	privately owned	franchised	educational facilities	housing	multi-use	pre-engineered	other	arch. / eng.	production	erection	management	open	closed	consortium	outright purchase
MINNESEPA LTD.	ny		x		x					x	x		ny, state		x	x	x
MODUFAB INC.	fl	x				x				x	x	x	x	us		x	x
MODULAR STRUCTURES INC.	mn	x			x					x		x	x	200 mi from mn. plant	x		x
MODULE COMMUNITIES INC.	ny		x	a	b	x			c	x	x	x	x	east, west midwest	x		d
MONOLITHIC MASONRY BUILDINGS INC.	ny	f	x	c	x	x	x	x		x	x	x	x	us & canada	x	x	x x
PANELFAB INTERNATIONAL CORP.	fl	x			x	x	x			x	x	x	x	eastern us		x	x
PARKERSBURG BUILDING SYSTEMS	wv	x			x		x	x		x	x	x	x	us	x		x
PORTABLE SCHOOLS INC.	ny		x		x					x	x			ny, state		x	x
RAS	can	e			x								x	montreal	x		x
SECTIONAL STRUCTURES INC.	ny	x			x	x	x			x	x	x	x	ct, mi, nj, ny, pa		x	x
SEF	can	e			x									toronto	x		x
SHELLEY SYSTEMS	ny		x			x				x	x	x	x	north & northeast		x	x
STAR MFG. CO.	ok			x			x	x		x	x	x	x	us	x		x
STIRLING HOMEX CORP.	ny	x				x				x	x	x	x	us & foreign		x	x
STRAN STEEL CORP.	tx	x		x	x		x	x		x	x	x	x	us & foreign	x		x
TOWNLAND MARKETING AND DEVELOPMENT	nj		x			x	x			x	x		x	northeast & northwest	x		x
URBAN SYSTEMS DEVELOPMENT CORP.	va		x			x				x	x	x	x	200 mi from va. plant	x	x	x
USCO	va	x			x	x	x			x	x	x	x	east of the mississippi	x	x	x

a. at a later date
 b. in about 2 years
 c. research only

d. by general contractor
 e. state agency
 f. now exploring possibilities

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ership		primary activity			services			market areas		management system		quisition methods		bidding options				
privately owned	franchised	housing	multi-use	pre-engineered	other	arch / eng.	production	erection	management	open	closed	consortium	outright purchase	rent	lease purchase	performance bidding	traditional bidding	turnkey
x	x	x	x	x	x	x	x	x	ny. state	x	x	x	x	x	x	x	x	
		x			x	x	x	x	us	x	x	x	x	x	x	x	x	
		x			x		x	x	200 mi from mn. plant	x		x				x	x	
x a b	x	c	x	x	x	east, west midwest	x		x			d		x	x	x	x	
x c	x x x x x	x	x x x x	x	us & canada	x	x	x	x	x	x	x	x	x	x	x	x	
	x x x	x	x x x x	x	eastern us		x	x	x	x	x	x	x	x	x	x	x	
	x x x	x	x x x x x	x	us	x	x	x	x	x		x	x	x	x	x	x	
x	x			x x	ny. state		x		x	x		x	x					
	x			x	montreal	x			x	x		x	x	x				
	x x x	x	x x x x	x	ct., mi., nj., ny., pa.		x	x	x	x	x	x	x	x	x	x	x	
	x				toronto	x			x	x		x	x	x				
x	x	x	x x x x x	x	north & northeast		x		x	x		x	x	x	x	x	x	
x	x x x	x	x x x x x	x	us	x			x	x		x	x	x	x	x	x	
	x		x x x x x	x	us & foreign		x	x	x	x	x	x	x	x	x	x	x	
x x	x x x x x	x	x x x x x	x	us & foreign	x			x	x	x	x	x	x	x	x	x	
x	x x x	x	x x x x x	x	northeast & northwest	x			x	x	x	x	x	x	x	x	x	
x	x	x	x x x x x	x	200 mi from va. plant		x	x	x	x	x	x	x	x	x	x	x	
	x x x	x	x x x x x	x	east of the mississippi	x	x	x	x	x	x	x	x	x	x	x	x	

general contractor

the agency

exploring possibilities

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CHART B: PRODUCT DESCRIPTION - STRUCTURAL

	location	primary product					structural system			material		span limits			plan	story height		stack		
		educational facilities	housing	multi-use	pre-engineered	inflatable	other	frame	panel	module-box	space frame / truss	other	wood	concrete	steel	other	short	medium	long	free space
ARMCO STEEL CORP.	oh	x		x	x		x	x	x			x	a	a	a	140'(b)	up to 40'			x
BIRDAIR STRUCTURES	ny				x				d			d		x	e					x one
BUTLER MFG. CO.	mo	x	x	x		x		x	f		x	x	x	50'x50'	9'-22'(g)	odd 3'-6"	x	1 to 5		
CARLSON CORP.	ma	h		x						i		i	x	x	x	i	i	i		
COMPONENT BLDG. SYSTEMS LTD.	il	x	x	x		x					x	x	x	27'-5"x35'		i	i	i	x	
COMPONOFORM INC.	ma	x	x	x		x	x			x		x	x	32'x40'		i	i	i	x 30	
DESCON/CONCORDIA	con	x				x	x			x		x		21'x27'-4"	8'-0"					22
DUANE RENTALS INC.	ny		x					x			x	x		12'x70'	8'-0"	9'-6"			3	
GENERAL ELECTRIC	pa	x						x		x	x	x	x	12'x36'	8'-0"	9'-4"			2	
HOUSING SYSTEMS INC.	ny	x					x		x			x		38'x38'	8'-0"	8'-6"			30	
INSTA BUILDINGS INC.	mi	x	x				x			x		x	x	32'x38'	8', 10', 12'	odd 1'-6"	x	3		
JAL-DONN MODULAR BUILDINGS INC.	oh	x					x			x	x	x		12'x48'	7'-6", 8'-0"	12'-0"			3	
KAISER DESIGNED FACILITIES CORP.	oh	x	x			a	a	a			x	x	x	50'x	9'-6"	13'-0"	x	3		
LEVITT BUILDING SYSTEMS INC.	mi	x					x		x		x		x	12'x60'	8'-0"				2	
LOCKHEED AIRCRAFT SERVICE CO.	ca	x				x			x		x	x	x	x	j	8', 12'			x 3	
MACOMBER INC.	oh	k	k	k	k	x					x	x	x	x	130'x	up to 24'			x 3	
MARSHALL ERDMAN AND ASSOCIATES INC.	wi	x	x	x	x	i		x		x	x	x	x	i	i	i	i			

a. several structural systems available
 b. available upon special request
 c. currently one story, planning two story
 d. air supported nylon, dacron, or fiberglass
 e. practically unlimited

f. tridetic
 g. In 1" increments, others on special order
 h. only interested in private educational facs.
 i. traditional design options
 j. span limited by choice of roof system

k. structural system only
 l. medical facilities

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PRODUCT DESCRIPTION - STRUCTURAL

location	primary product				structural system			material		span limits			plan	story height		stackability	flexibility	number of stories	fixed	semi-fixed	removable			
	educational facilities	housing	multi-use	pre-engineered	inflatable	other	frame	panel	module-box	space frame/truss	other	wood	concrete	steel	other	short	medium	long	free space	floor-ceiling	floor	varies		
oh	x		x	x	x	x	x	x	x	x	x	x	x	x	a	a	a	140'(b)	up to 40'	x	c		x	
ny			x					d		d		x	e						x	one		x		
mo	x	x	x	x	x	x	f	x	x	x	x	50'x50'	9'-22'(g)	x	x	add 3'-6"	x	1 to 5				x		
ma	b	x					i			i	x	x	x	i		i	i		i	1	x			
il	x	x	x		x				x		x	x	27'-6"x35'	i	i	i	x	i		x				
mo	x	x	x	x	x	x		x		x	x	32'x40'	i	i	i	x	30		x					
can	x			x	x			x		x		21'x27'-4"	8'-0"					22		x				
ny		x			x			x		x		12'x70'	8'-0"			9'-6"	3			x				
pa	x					x		x	x	x	x	12'x36'	8'-0"			9'-4"	2			x				
ny	x					x		x		x		38'x38'	8'-0"			8'-6"	30		x					
mi	x	x				x			x		x	32'x38'	8', 10', 12'			add 1'-6"	x	3			x			
oh	x				x			x		x		12'x48'	7'-6", 8'-0"			12'-0"	3			x				
oh	x	x		a	a	a			x		x	x	x	x	50'x	9'-6"	13'-0"	x	3			x		
mi	x				x	x		x		x		12'x60'	8'-0"				2			x				
ca	x				x			x		x	x	x	j	8', 12'		x	3		x					
oh	k	k	k	x				x		x	x	x	130'x	up to 24'		x	3		x					
wi	x	x	x	i		x		x		x	x	x	i	i	i	i	i	i	i	i	i	i		

not available
request
planning two story
concrete, or fiberglass

f. triodetic
g. in 1" increments, others on special order
h. only interested in private educational facs.
i. traditional design options
j. span limited by choice of roof system

k. structural system only
l. medical facilities

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CHART B: CONTINUED

	primary product		structural system		material		span limits		plan	story height	varies											
	location	educational facilities	housing	multi-use	pre-engineered	inflatable	other	frame	panel	module	box	space	frame / truss	other	wood	concrete	steel	other	short	medium	long	free space
MINNESEPA LTD.	ny	x							x					x		x	x	x	60'x	9'-0"	11'-2"	
MODUFAB INC.	fl		x						x					x		x	x		24'x24'	8'-12'		
MODULAR STRUCTURES INC.	mn	x						x		x		x			x		x		12'x52'	7'-6"-8'		
MODULE COMMUNITIES INC.	ny	x						x				x		x	x	x	x	20'x32'	9'-6"			
MONOLITHIC MASONRY BUILDINGS INC.	ny	x	x	x	x			x	x	x		x		x	x	x	x	150'x	up to 30'		x	
PANELFAB INTERNATIONAL CORP.	fl	x	x	x				x	x	x				a	x	x	x	90'x			x	
PARKERSBURG BUILDING SYSTEMS	wv	x		x	x			x	x				x		x	x	x	120'x	up to 24'		x	
PORTABLE SCHOOLS INC.	ny	x							x				x		x	x	x	24x45'				
RAS	can	x						x				x			x	x	x	20'x60'	9'-4"-22'	add 4'-0"		
SECTIONAL STRUCTURES INC.	ny	x	x	x				x		x		x		x		x		24'x60'	9'-6"			
SEF	can	x	x		x			x		x		x		x	x	x	x	65'x	10', 14', 18', 8' 24'	add 4'-0"	x	
SHELLEY SYSTEMS	ny	x						x				x		x	x	x	x	12'x52'	8'-0"	8'-9"		
STAR MFG. CO.	ok		x	x		x		x				x		x	x	x	x	almost unlimited	8'-20'		x	
STIRLING HOMEX CORP.	ny	c						x		x		x	x	x	x	x	x	26'x36'	7'-6"-8'			
STRAN STEEL CORP.	tx	x	x	x		x			d		x	x	x	x	x	x	x	35'x60' 130'x25'	8'-0" to 28'	add 3'-0'		
TOWNLAND MARKETING AND DEVELOPMENT	nj	x						e	e	e	e	e	e	e	e	x	x	sis 20x48'	sis 20'-30'			
URBAN SYSTEMS DEVELOPMENT CORP.	va	x						x		x		x		x		x	x	12'x52'				
USCO	va	x	c	x				x	x	x	x	x	x	x	x	x	x	44'x	8'-9'-6"			

a. exterior envelope, roof, and partitions are 2", 3", or 4" gl, skin honeycomb
 b. can go to 5 stories if top floor is academic only
 c. two systems available- wood and concrete
 d. pre-engineered

e. townland has two systems - a concrete frame (sis) onto which 2 and 3 story infill housing units are placed, the infill units are produced by other members of the townland consortium from various materials

TINUED

primary product	structural system	material	span limits	plan	story height	stackability	flexibility	
educational facilities	housing	frame	wood	60'x 9'-0"	11'-2"	3	fixed	
multi-use	multi-use	panel	concrete	24'x24'	8'-12'	3	semi-fixed	
pre-engineered	inflatable	module-box	steel	12'x52'	7'-6"-8'	1	removable	
other	other	space frame / truss	other	20'x32'	9'-6"	25		
			wood	150'x	up to 30'	X 20		
			concrete	90'x		X		X
			steel	120'x	up to 24'	X 2		X X
			other	24x45'		1		X
			wood	20'x60'	9'-4"-22'	4-5(b)		X
			concrete	24x60'	9'-6"	3		X
			steel	65'x	10', 14', 18', a 24'	add 4'-0"	X 4	X
			other	12'x52'	8'-0"	24		X
			wood	8'-20'		X 1		X
			concrete	26x36'	7'-6"-8'	wood-2 concrete-2a		X
			steel	35x60'	8'-0 to 28'	add 3'-0'	X 2	X
			other	130x25'				
			wood	sis 20x48'	sis 20'-30'	X 15 stories (5-3 story units)	X	
			concrete	12'x52'		wood-2		X
			other	44'x	8'-9"-6"	X wood concrete		X

titions are 2", 3", or 4" al. skin honeycomb
is academic only
nd concrete

e. townland has two systems - a concrete frame (sis) onto
which 2 and 3 story infill housing units are placed, the
infill units are produced by other members of the
townland consortium from various materials

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CHART C: SUB-SYSTEM CHARACTERISTICS

	location	foundation	floor system	floor fin.	ceiling system	cig. mtl	roof system	envelope system	partition system	partition material	stair system	ele
		+ or -	slab perimeter piles	+ or -	concrete on metal wood	unlimited	limited	+ or -	concrete plaster on wood plaster on metal suspended ceiling	integrated with lights	unlimited	+
ARMCO STEEL CORP.	oh	-	X	-	X	-		+ X	X X +	X +	X X	X
BIRDAIR STRUCTURES	ny	+ X X	o		X b		X		c	-		
BUTLER MFG. CO.	mo	- X X X	+	X	X	+	X	X + X X	X X + d d d	X +	X X	X
CARLSON CORP.	mo	-		-		-		-				
COMPONENT BLDG. SYSTEMS LTD.	il	-		+ X	X	+	X X	+ X	X +	X +	X	X
COMPONOFORM INC.	ma	-		+ X	X	+ X	X	+ X	+ X e e e +	X	X + X e e +	X
DESCON / CONCORDIA	can	-		+ X		X + X		X + X	X + X	+ X	X	+ X + X
DUANE RENTALS INC.	ny	-		+ X X	+ X	-	X	+ X	X +	X X X + X	X	-
GENERAL ELECTRIC	pa	-	X X +		X X	+	X	X + X	X X +	X X + X	X	+ X -
HOUSING SYSTEMS INC.	ny	+ X		+ X	X	+ X		X + X	X + X	+ X	X	X + X X X - X
INSTA BUILDINGS INC.	mi	-		+ X		+	X	X X + X	+ X	X + X	X X X +	-
JAL-DONN MODULAR BUILDINGS INC.	oh	-		+ X X	+ X	+	X	X + X	+ X	X + X	X	+ -
KAISER DESIGNED FACILITIES CORP.	oh	-		+ X X	+ X	+	X X	+ X X	X +	X + X X X	X X	-
LEVITT BUILDING SYSTEMS INC.	mi	- X X	+	X X	+ X	X	X + X	X + X	X X X + X	X	+ X X -	
LOCKHEED AIRCRAFT SERVICE CO.	ca	- X	+ X	X	+ X	X	X X +	f	X + X	+ X	X	X -
MACOMBER INC.	oh	g	g		-		g	X X g	-	X + X	X	-
MARSHALL ERDMAN AND ASSOCIATES INC.	wi	+ X	+ X	X X	+ X		X X	X + X X	X X +	X + X	X	+ X X +

a. normally concrete or earth

b. can provide suspended acoustical treatment

c. various skin materials - nylon, rayon, fiberglass

d. system can accept various types of enclosures

e. other materials possible

f. urethane foam

g. structural system only

ITEM CHARACTERISTICS

plies	floor system	floor fin.	ceiling system	clg. matl.	roof system	envelope system	partition system	partition material	stair system	elevator enclosure	elec. mech.	heating, vent. and air cond.
+	or -	concrete	concrete on metal	wood	unlimited	+	or -	concrete	+	or -	+	or -
a	b			plaster on wood	plaster on metal	suspended ceiling	integrated with lights	unlimited	+	or -	+	or -
				wood	limited	+	or -	built-up	metal	+	or -	pre-cast concrete
				plaster	limited	+	or -	other	sloped	+	or -	masonry
				on	+	+	+	wood	flat	+	or -	wood
				concrete	+	X	X	metal		X	+	flexible
				on	+	X	X	plaster		X	+	on a module
				concrete	+	X	X	on		X	+	plaster on wood
				on	+	X	X	metal		X	+	plaster on metal
				concrete	+	X	X	masonry		X	+	concrete
				on	+	X	X	metal		X	+	metal
				concrete	+	X	X	concrete		X	+	flexible
				on	+	X	X	wood		X	+	concrete
				concrete	+	X	X	steel		X	+	wood
				on	+	X	X	wood		X	+	floor duct
				concrete	+	X	X	concrete		X	+	composit unit
				on	+	X	X	wood		X	+	wall unit
				concrete	+	X	X	other		X	+	other

f. urethane foam

g. structural system only

atment
fiberglas
closures

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CHART C: CONTINUED

	location	foundation	floor system	floor fin	ceiling system	clg. mtd.	roof system	envelope system	partition system	partition material	stair system
		+ or - stabs perimeter piles	+ or - concrete on metal wood	unlimited limited	+ or - concrete on metal wood	integrated with lights unlimited	built-up metal	sloped flat	+ or - pre-cast concrete masonry wood metal	on a module plaster on wood plaster on metal masonry flexible	+ or - concrete steel
MINNESEPA LTD.	ny	- X	+	X	+	X	X +	X	X + X	X + X	-
MODUFAB INC	fl	-	+	X	+	X	X + X	X + X	X X + X	X	-
MODULAR STRUCTURES INC.	mn	-	+	X	+	X	X + X	X + X	X + X	X + X	X + X
MODULE COMMUNITIES INC.	ny	-	+ X	X	+ X	X X	+ X	X + X	+ X X	X X	X + X
MONOLITHIC MASONRY BUILDINGS INC.	ny	+ X	X + X	X	+ X	X	+ X	X + X	+ X	X	+
PANELFAB INTERNATIONAL CORP	fl	-	+ X	X	+ ..	X X	+ X X	X X	+ X	b	-
PARKERSBURG BUILDING SYSTEMS	wv	- X X	+	X	X	+ X X	X + X X	X +	X + X	X X	-
PORTABLE SCHOOLS INC.	ny	-	+	X	X	+ X	X + X	X +	X + X	X	-
RAS	can	-	+ X	X	+	X X	X -	X -	+ X X X	X	-
SECTIONAL STRUCTURES INC.	ny	-	+	X X	+	X X	X + X	+	X + X	X	+ X X
SEF	can	-	+	X	X	+ X X	X + X	X + X	+ X X X	XX	-
SHELLEY SYSTEMS	ny	-	+	X	X	+ X	X + X	X + X	+ X	X	-
STAR MFG. CO.	ok	- X X X + X		X	-	X + X	X + X	X +	X -		-
STIRLING HOMEX CORP	ny	-	+	X	X	+ X	X + X	X + X	+ X	X	X + X
STRAN STEEL CORP.	tx	- X X X + X		X	+	X X	+ X X	X X + d d d X + X		X	-
TOWNLAND MARKETING AND DEVELOPMENT	nj	+	X + X								-
URBAN SYSTEMS DEVELOPMENT CORP	va	-	+	X X	+	X	X + X	X X +	X + X	X	+
USCO	va	-	+	X X	+	X	X + X	X +	X X X + X X	X	+

a. partially-conduit and boxes

b. aluminum skin honeycomb

c. service and utilities supplied to each housing unit through vertical and horizontal utility ducts

d. system accepts various enclosures

CONTINUED

foundation	floor system	floor fin	ceiling system	cld. mdt.	roof system	envelope system	partition system	partition material	stair system	elevator enclosure	elec. mdt.	heating, vent. and air cond.
+ or -	slab	+ or -	concrete	perimeter	concrete	on metal						
	perimeter	files	concrete	on metal								
	wood	wood	concrete	on metal								
-	X	+	X	+	X	+	X	+	X	-	+	+
-	+	X	+	X	X	+X	X X +	X X + X	X	-	+	+
-	+	X	+	X	X	+X	X +	X + X	X	-	+	+
-	+	X	X	+X	X X	+X	X + X	+ X X	X + X	+ X	a	-
+	X	X + X	X	+X	X	+X	X + X X	+ X	X +	+ X	+ +	c
-	+	X	X	+	X	X	+ X X	b	+ X	b	-	-
-	XX	+	X	X	+ X X	X	+ X X	X +	X X	-	-	-
-	+	X	X	+	X	X	+ X	X +	X	-	-	+
-	+	X	X	+	X	X	-	X -	+ X X X	X	-	+
-	+	X X	+	X	X	+ X	-	X +	X X	+ X X -	+	X
-	+	X	X	+	X	X	+ X	X +	X X	-	-	+
-	+	X	X	+	X	X	+ X	X + X	X X	-	-	+
-	+	X	X	+ X	X	+ X	X + X	+ X	X	-	-	+
-	XX	+	X	-	X	+ X	X +	X -	-	-	-	-
-	+	X	X	+	X	X	+ X	X + X	+ X	X + X	+	+
-	XX	+	X	+	X	X	+ X X	X X + d d d X + X	X	-	-	-
-	X + X									c c		
-	+	X X	+	X	X	+ X	X X +	X + X	X	+ X +	+ + +	X
-	+	XX	+	X	X	+ X	X +	X X X + X X	X	+	-	+
-	+	XX	+	X	X	+ X	X +	X X X + X X	X	+	-	+

d. system accepts various enclosures

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to each housing
central utility ducts

CHART D: PRODUCTION-DELIVERY-ERECTION CHARACTERISTICS

	location	fabrication			fabrication quantity	transportation			range			erection		erection quantity		
		off-site	on-site	combination		by company	subcontracted	road	other	limit	cost above limit	by product manufacturer	subcontracted	technical assistance		
ARMCO STEEL CORP.	oh	X			unlimited	X	X	X	none			X	X	X	X	unlimited
BIRDAIR STRUCTURES	ny	X			4-5 million sq. ft. per year		X	X	none			X	X			100' x 200' 2-4 days
BUTLER MFG. CO.	mo	X			15 million sq. ft. per year				a						X	100,000 sq. ft. in 4 weeks
CARLSON CORP.	ma		X		varies with local producer		X	X						X		
COMPONENT BLDG. SYSTEMS LTD.	il		X			X				1000 miles		X	X	X		225,000 sq. ft. in 6 months
COMPONOFORM INC.	ma	X			2.5 million sq. ft. per year per shift	X	X			175 miles		X	X			
DESCON / CONCORDIA	can	X		X	varies with producer			X	a	100 mile radius of local producer			X	X		varies with producer
DUANE RENTALS INC.	ny	X			2 units per week	X	X	X		700 mile radius from pa. plant			X			
GENERAL ELECTRIC	pa	X			16 modules a day		X	X	a	150 mile radius from pa. & ca. plant	\$1.00/mi/module		X	X		1 unit 20-25 man hours
HOUSING SYSTEMS INC.	ny		X		7000 sq. ft. per day	b				b	b	X				25,000 sq. ft. in 16-18 weeks
INSTA BUILDINGS INC.	mi	X			1 module a day		X	X	X	250 mile radius from ah. plant	\$150/module	X				12,000 sq. ft. in 8 weeks
JAL-DONN MODULAR BUILDINGS INC.	oh	X			4 modules a day		X	X		100 mile radius from ah. plant	\$1.15/module		X	X		9-18 units a day
KAISER DESIGNED FACILITIES CORP	oh	X	X		30,000 ft. sq. day		X	X		1000-1200 miles from ca. & oh. plant	\$1.00/module		X	X		20 modules a day
LEVITT BUILDING SYSTEMS INC.	mi	X			2,000 houses per year		X	X		300 mile radius from mi. plant			X			1 unit a day per crew
LOCKHEED AIRCRAFT SERVICE CO.	ca		X							none				X		
MACOMBER INC.	oh		X				X	X	a	none			X	X		
MARSHALL ERDMAN AND ASSOCIATES INC.	wi		X		no limit	X	X			east, south & midwest		X				60,000 sq. ft. in 5 months

a. by rail

b. mobile factory

ODUCTION-DELIVERY-ERCTION CHARACTERISTICS

fabrication			fabrication quantity	transportation			range		erection				erection quantity	co-ordination				
off-site	on-site	combination	by local resources	by company	subcontracted	road	other	limit	cost above limit	by product manufacturer	subcontracted	technical assistance	franchise dealer	by company	independent construction manager	owner's architect	general contractor	franchise dealer
X			unlimited	X	X	X	none			X	X	X	X	unlimited	X	X	X	X
X			4-5 million sq. ft. per year	X	X		none			X	X			100'x200' 2-4 days	X			
X			15 million sq. per year			a							X	100,000 sq. ft. in 4 weeks				X
	X		varies with local producer	X	X					X					X			
	X				X			1000 miles		X	X	X		225,000 sq. ft. in 6 months	X		X	
X			25 million sq. ft. per year per shift	X	X			175 miles		X	X				X			
X	X		varies with producer		X	a	100 mile radius of local producer			X	X			varies with producer	X			
X			2 units per week	X	X	X		700 mile radius from pa. plant		X					X			
X			16 modules a day	X	X	a	150 mile radius from pa. & ca. plant	\$1.00/mi/module		X	X			1 unit 20-25 man hours	X			
X			7000 sq. ft. per day	b				b	b	X				25,000 sq. ft. in 16-18 weeks	X		X	
X			1 module a day	X	X	X	250 mile radius from oh. plant	\$1.50/module		X				12,000 sq. ft. in 8 weeks	X			
X			4 modules a day	X	X		100 mile radius from oh. plant	\$1.15/mi/module		X	X			9-18 units a day	X			
X	X		30,000 ft. sq. day	X	X		1000-1200 miles from ca. & oh. plant	\$1.00/module		X	X			20 modules a day	X			
X			2,000 houses per year	X	X		300 mile radius from mi. plant			X				1 unit a day per crew	X		X	
X							none				X					X		
X				X	X	a	none			X	X				X			
X			no limit	X	X		east, south & midwest			X				60,000 sq. ft. in 5 months	X			

CHART D: CONTINUED

	location	fabrication			fabrication quantity	transportation			range			erection			erection quantity		
		off-site	on-site	combination		by local resources	by company	subcontracted	road	other	limit	cost above limit	by product manufacturer	subcontracted	technical assistance		
MINNESEPA LTD.	ny	X			2 modules a day	X		X			ny. state	\$1.00/mi./module	X			4 classroom 15 days	
MODUFAB INC.	fl	X			8 modules a day	X		X				\$1.25/mi./module	X			2-3 modu 2 days	
MODULAR STRUCTURES INC.	mn	X			6-8 modules a day		X	X			200 miles from mn. plant	\$1.50/mi./module	X			6 hours p	
MODULE COMMUNITIES INC.	ny	X			800,000 sq. ft. per yr. per plant	X		X			50-100 miles from plant	\$.25/sq. ft. of floor area	X			2000 sq. f	
MONOLITHIC MASONRY BUILDINGS INC.	ny	X			not limited	X		X			500 miles from plant	\$1.00/mi./module	X			4 classroom	
PANELFAB INTERNATIONAL CORP.	fl			X	50,000 sq. ft. a day		X	X			us and foreign		X	X	X	1.5 hours/ ft. of exterior	
PARKERSBURG BUILDING SYSTEMS	wv	X			not limited	X	X	X			us			X		X 60' X 100' 45-60 days	
PORTABLE SCHOOLS INC.	ny	X			4 classrooms 40-60 days	X	X	X			ny. state		X				
RAS	can			X	60,000 sq. ft. a mo.		X	X			varies with local manufacturer		X			100,000 sq.	
SECTIONAL STRUCTURES INC.	ny	X			8 modules a day			X					X	X		15,000 sq.	
SEF	can			X	60,000 sq. ft. in 7 months		X	X					X	X		60,000 sq. 7 months	
SHELLEY SYSTEMS	ny	X			2000 units a year	X		X					X			4 units a	
STAR MFG. CO.	ok	X			3 million sq. ft. a year		X	X	a	no limit						X	
STIRLING HOMEX CORP.	ny			X	100 units a mo.		X	X	a	900 miles from ny. plant			X	X		3 hours/un (excluding	
STRAN STEEL CORP.	tx	X			not limited	X	X	X	a							X varies with franchisee	
TOWNLAND MARKETING AND DEVELOPMENT	nj			X	1 bay a day		X	X		250 mile radius from producer			X	X		1 bay a day	
URBAN SYSTEMS DEVELOPMENT CORP.	va	X			wood-5000 sf day		X	X		200 mile radius from plant			X			4-6 hours	
USCO	va	X			20 modules a day	X		X		east of the mississippi	\$1.00-1.10/mile/module	X				9-10 modul (excluding	
a. by rail																	CEN rents

fabrication quantity	transportation			range		erection			erection quantity	co-ordination						
	by company	subcontracted	road	other	limit	cost above limit	by product manufacturer	subcontracted	technical assistance	by company	independent construction manager	owner's architect	general contractor	franchise dealer		
2 modules a day	X	X		ny. state	\$1.00/mi./module	X				4 classrooms in 15 days	X					
8 modules a day	X	X				\$1.25/mi./module	X			2-3 modules in 2 days	X					
5-8 modules a day	X	X		200 miles from mn. plant	\$1.50/mi./module	X				6 hours per unit	X					
300,000 sq. ft. per yr. per plant	X	X		50-100 miles from plant	\$.25/sq. ft. of floor area	X				2000 sq. ft. a day	X					
not limited	X	X		500 miles from plant	\$1.00/mi./module	X				4 classrooms/day	X					
10,000 sq. ft. a day	X	X		us and foreign		X	X	X		1.5 hours/linear ft. of exterior wall	X		X			
not limited	X	X	X	us			X		X	60' X 100' 45-60 days			X			
10 classrooms 45-60 days	X	X	X	ny. state		X						X				
60,000 sq. ft. a mo.	X	X		varies with local manufacturer		X				100,000 sq. ft. a mo.		X				
8 modules a day		X				X	X			15,000 sq. ft. a day	X					
50,000 sq. ft. in 7 months		X	X				X	X		60,000 sq. ft. in 7 months		X				
2000 units a year	X	X				X				4 units a day	X					
1 million sq. ft. a year	X	X	a	no limit					X				X			
100 units a mo.	X	X	a	900 miles from ny. plant		X	X			3 hours/unit (excluding s.work)	X					
not limited	X	X	X	a					X	varies with franchiser			X			
1 bay a day		X	X		250 mile radius from producer		X	X		1 bay a day	X					sis system only
1000-5000sf day		X	X		200 mile radius from plant		X			4-6 hours/module	X					
10 modules a day	X	X		east of the mississippi	\$1.00-1.10/mile/module	X				9-10 modules/day (excluding s.work)	X					

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CHART E: EDUCATIONAL FACILITIES EXPERIENCE AND COST DATA

	location	education space type				location	types of schools			mechanical complexity		cost data	contractual preference				d c
		classrooms only	entire new schools	additions	loft-type space		public	private	university	simple	complex		multiple contract	single contract	turnkey	negotiated	performance type
ARMCO STEEL CORP.	oh	X	X	X		us & canada	X	X	X		X	\$10.00 sq. ft. and up	X	X	X	X	6
BIRDAIR STRUCTURES	ny			X		us		X	X			\$200-700 sq. ft.	X				7-
BUTLER MFG. CO.	mo	X	X	X		us	X	X	X		X	\$15.00-30.00 sq. ft. (o)					b
CARLSON CORP.	ma	X		X		n.e. us		X			X	guaranteed budget costs			X		guar
COMPONENT BLDG. SYSTEMS LTD.	il	X	X				X	X	X	X			X	X	X	X	90
COMPONOFORM INC.	ma	X	X			n.e. us	X	X	X		X	\$5.00-6.00 sq.ft.	X				
DESCON / CONCORDIA	con																
DUANE RENTALS INC.	ny																
GENERAL ELECTRIC	pa																
HOUSING SYSTEMS INC.	ny	X				us & foreign	X	X	X	X		\$10.00-25.00 sq. ft.			X		10-
INSTA BUILDINGS INC.	mi	X	X	X		michigan	X		X		X	\$23.50 sq. ft. (includes s. work)	X				8 w
JAL-DONN MODULAR BUILDINGS INC.	oh																
KAISER DESIGNED FACILITIES CORP.	oh	X	X	X		n.e., midwest	X		X			\$12.00-24.00 sq. ft.	X				stock oth
LEVITT BUILDING SYSTEMS INC.	mi																
LOCKHEED AIRCRAFT SERVICE CO.	ca																
MACOMBER INC.	ah	X	X	X		us	X	X	X		X					X	
MARSHALL ERDMAN AND ASSOCIATES INC.	wi	X	X	X		east, south & midwest	X			X		\$15.00-18.00 sq. ft. inc. fees	X	X	X	X	60,0
<p>a. structure \$1.50-2.00 sq. ft. erected b. lighting and acoustical ceiling (100 f.c.) \$1.00. ft. sq. b. most arrangements are acceptable, butler bids structure and lighting/ceiling</p>																	
CENTER rensselaer																	

EDUCATIONAL FACILITIES EXPERIENCE AND COST DATA

education space type	classrooms only	entire new schools	additions	left type space	other	location	types of schools	mechanical complexity	cost data	contractual preference	delivery time after contract	
	X X X	X	X	X		us & canada	X X X	simple	\$10.00 sq. ft. and up	X X X X	6 weeks	
		X				us	X X	complex	\$200-700 sq. ft.	X	7-11 weeks	
	X X X					us	X X X		\$15.00-30.00 sq. ft. (a)		b	
	X X					n.e. us	X X X		guaranteed budget costs	X	guaranteed	
	X X						X X X X			X X X X	90 days	
	X X					n.e. us	X X X		\$5.00-6.00 sq.ft.	X		
	X					usa & foreign	X X X X		\$10.00-25.00 sq. ft.	X	10-12 weeks	
	X X X					michigan	X X		\$23.50 sq.ft. (includes s.work)	X	8 weeks	
	X X X					n.e. midwest	X X		\$12.00-24.00 sq. ft.	X	stock units-immediate others-60 to 90 days	
	X X X					us	X X X			X		
	X X X					east, south & midwest	X	X	\$15.00-18.00 sq. ft. inc. fees	X X X X	60,000 sq. ft. - 5 months	

erected
iling (100 f.c.) \$1.00 ft. sq.
ceptable, butler bids
iling

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CHART E: CONTINUED

	location	education space type					location	types of schools			mechanical complexity	cost data	contractual preferences		
		classrooms only	entire new schools	additions	loft-type space	other		public	private	university			multiple contract	single contract	turnkey
MINNESEPA LTD.	ny	x		x			ny. state	x			x	\$18.00-26.00 per sq. ft.	x		
MODUFAB INC.	fl														
MODULAR STRUCTURES INC.	mn														
MODULE COMMUNITIES INC.	ny														
MONOLITHIC MASONRY BUILDINGS INC.	ny	x	x	x	x	x	us	x	x	x	x	on request	x	x	x
PANELFAB INTERNATIONAL CORP	fl		x	x	x		6000 rooms throughout us					x	\$10.00-25.00 per sq. ft.		x
PARKERSBURG BUILDING SYSTEMS	wv		x	x	x		ny., pa., etc.				x		\$10.00-25.00 per sq. ft.	x	x
PORTABLE SCHOOLS INC.	ny	x					ny. state				x			x	
RAS	can		x	x			montreal can.	x			x	\$16.50 per sq. ft.			x
SECTIONAL STRUCTURES INC.	ny		x	x			ct., mi., ny., etc	x	x			\$16.00-18.00/s.f. (excludes s.work)	x		
SEF	can		x	x	x		toronto can.	x			x	\$19.10 per sq. ft.			x
SHELLEY SYSTEMS	ny														
STAR MFG. CO.	ok		x	x	x		us	x	x	x	x	varies	x	x	x
STIRLING HOMEX CORP	ny														
STRAN STEEL CORP.	tx	x	x	x				x	x	x		x	\$ 9.00 per sq. ft.	x	x
TOWNLAND MARKETING AND DEVELOPMENT	nj														
URBAN SYSTEMS DEVELOPMENT CORP	va														
USCO	va		x	x			eastern us	x	x	x		x	\$10.00-25.00 per sq. ft.	x	
a. newly formed company															

CONTINUED

education type	space type	location	types of schools			mechanical complexity	cost data	contractual preference			delivery time after contract			
classrooms only	entire new schools additions	loft-type space	public	private	university	simple	complex	multiple contract	single contract	turnkey	negotiated	performance type	other	
X	X	ny. state	X			X	\$18.00-26.00 per sq. ft.	X					I-10 classrooms - 45 days	
X	X	X	X	X	us	X	X	X	X	on request	X	X	X	90 days
X	X	X	6000 rooms throughout us				X	\$1000-2500 per sq. ft.			X		60-90 days	
X	X	X	ny., pa., etc.			X		\$1000-2500 per sq. ft.	X	X			4-6 weeks	
X			ny. state			X			X					
X	X		montreal can.	X			X	\$16.50 per sq. ft.			X			
X	X		ct., mi., ny., etc.	X	X			\$16.00-18.00/s.f. (excludes s. work)	X					
X	X	X	toronto can.	X		X		\$19.10 per sq. ft.			X		7-10 mo. entire	
X	X	X	us	X	X	X	X	varies	X	X	X		6-9 weeks	
X	X	X		X	X	X		X \$ 9.00 per sq. ft.	X	X	X		6-10 weeks	
X	X		eastern us	X	X	X	X	\$1000-2500 per sq. ft.	X					

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CHART F: INTEREST AND CONDITIONS CHARACTERISTICS

	location	space types				conditions				general interest			remarks	
		new schools	loft type	classrooms	any type	guaranteed market	guaranteed quantity	single contract	turnkey	minimum quantity	interested	doubtful	not interested	
ARMCO STEEL CORP.	oh				x						x			
BIRDAIR STRUCTURES	ny		x				x				x			
BUTLER MFG. CO.	mo			x							x			
CARLSON CORP.	ma	x					x x			\$1,000,000		a		
COMPONENT BLDG. SYSTEMS LTD.	il	x	x	x	x	x	x x	x	50,000 sq. ft.	x				
COMPONOFORM INC.	ma			x			x		5000 sq. ft.	x				
DESCON / CONCORDIA	can				x						x			
DUANE RENTALS INC.	ny				x						x			
GENERAL ELECTRIC	pa					x				\$20,000,000/yr.	x			
HOUSING SYSTEMS INC.	ny	x	x			x				50,000 sq. ft.	x			
INSTA BUILDINGS INC.	mi			x		x				\$24,000	x			
JAL-DONN MODULAR BUILDINGS INC.	oh				x						x			
KAISER DESIGNED FACILITIES CORP.	oh			x		x					x			
LEVITT BUILDING SYSTEMS INC.	mi				x						x			
LOCKHEED AIRCRAFT SERVICE CO.	ca					x				30,000 sq. ft.	x			
MACOMBER INC.	oh			x		x				3200 sq. ft.	x			
MARSHALL ERDMAN AND ASSOCIATES INC.	wi	x	x				x x		10,000 sq. ft.	x				

a. not interested in public school facilities
due to complex legal implications

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INTEREST AND CONDITIONS CHARACTERISTICS

	location	space types		conditions			general interest			remarks
		new schools	loft type	classrooms	any type	guaranteed market	guaranteed quantity	single contract	turnkey	
oh			X							X
ny		X				X				X
mo			X							X
ma	X				X	X	\$1,000,000			a
il	X	X	X	X	X	X	50,000 sq. ft.	X		
ma			X			X	5000 sq. ft.	X		
can				X						X
ny				X						X
pa				X			\$20,000,000/yr.	X		
ny	X	X			X		50,000 sq. ft.	X		
mi			X		X		\$24,000	X		
oh				X						X
oh			X		X			X		
mi			X							X
ca				X			30,000 sq. ft.		X	
oh			X	X			3200 sq. ft.	X		
wi	X	X			X	X	10,000 sq. ft.	X		

public school facilities
implications

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CHART F: CONTINUED

	location	space types			conditions				general interest		remarks		
		new schools	loft type	classrooms	any type	guaranteed market	guaranteed quantity	single contract	turnkey	minimum quantity	interested	doubtful	not interested
MINNESEPA LTD.	ny		X				X			100,000 sq. ft	X		
MODUFAB INC.	fl						X					X	
MODULAR STRUCTURE INC.	mn											X	
MODULE COMMUNITIES INC.	ny				X		X			100,000 sq. ft	X		capable of participating in educational space
MONOLITHIC MASONRY BUILDINGS INC.	ny	X		X	X		X	X			X		
PANELFAB INTERNATIONAL CORP.	fl				X					7000 sq. ft of panels	X		
PARKERSBURG BUILDING SYSTEMS	wv				X					24' X 36'	X		
PORTABLE SCHOOLS INC.	ny			X			X				X		
RAS	can	X		X	X							X	
SECTIONAL STRUCTURES INC.	ny	X		X			X				X		
SEF	can				X	X						X	
SHELLEY SYSTEMS	ny				X								
STAR MFG. CO.	ok				X						X		
STIRLING HOMEX CORP	ny					X				200 units		X	
STRAN STEEL CORP	tx				X							X	
TOWNLAND MARKETING AND DEVELOPMENT	nj						X			10 bays (sls')	X		
URBAN SYSTEMS DEVELOPMENT CORP	va							X			X		
USCO	va	X		X			X			24' X 30'	X		

F: CONTINUED

	location	space types		conditions				general interest			remarks		
		new schools	loft type	classrooms	any type	guaranteed market	guaranteed quantity	single contract	turnkey	minimum quantity	interested	doubtful	not interested
D.	ny	X					X			X			
	fl						X				X		
	mn										X		
C.	ny				X		X	100,000 sq. ft		X			
ONRY	ny	X	X	X			X	X		X			capable of participating in educational space market in 2 years
CORP.	fl			X					7000 sq. ft of panels	X			
MS OLS	wv			X					24' X 36'	X			
	ny		X			X				X			
	can	X	X	X							X		
C.	ny	X	X			X				X			
	can			X	X						X		
MS	ny			X									
	ok			X						X			
CORP.	ny			X				200 units		X			
RP	tx		X							X			
ETING NT	nj				X			10 bays (18' x 18')		X			
RP	va					X				X			
	va	X	X			X		24' X 30'		X			

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